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RESEARCH ARTICLE



How voters choose one out of many: a conjoint analysis of the effects of endorsements on candidate choice

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ABSTRACT

Candidate endorsements affect the likelihood that people vote for a candidate since they reduce the efforts devoted to vote choices. However, the effects of endorsements from different sources remain under-explored. Furthermore, the effects of endorsements are believed to vary with the level of political sophistication, as voters with low sophistication are more reliant on such shortcuts, but it is unclear whether these differences are similar for different sources. We study the effects of endorsements from three different sources – family and close friends, networks on social media and Voting Advice Applications (VAAs) – on candidate favorability. We do so with a choice-based conjoint experiment embedded in a survey from Finland ($n = 1021$), where we also examine differences in effects across political sophistication (political interest, frequency of political discussions, internal political efficacy, party identification, and voting in the last parliamentary election). The results show that endorsements from VAAs and family and friends have positive effects while social media networks do not. We do not find systematic differences in effects across levels of political sophistication no matter how we operationalize it. This shows that it is important to consider the source of an endorsement to appreciate the effect, no matter who is the recipient.

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Endorsements; Voting Advice Applications; candidate choice; political sophistication; conjoint analysis

Introduction

During election campaigns, voters are confronted with an overflow of campaign messages, and rather than basing their decisions on all available information, they tend to apply various information shortcuts that allow them to reduce the transactional costs involved in gathering relevant political information, and help them make an (informed) vote choice. Previous research has established that voters use information shortcuts, such as party labels (Huddy, Bankert, and Davies 2018), descriptive characteristics, such as gender and age (Banducci and Karp 2000; Holli and Wass 2010), impressions of personality (Ambady and Rosenthal 1992; Benjamin and Shapiro 2009) or previous experiences

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(Feld and Grofman 1991; Cox and Katz 1996) of candidates, and the likeliness of the candidate winning a seat (Gschwend, Stoiber, and Günther 2004).

An alternative shortcut to a voting decision is to rely on endorsements from various sources; the relative impact of which is the focus of this study. Endorsements of a specific party or candidate can ostensibly provide a strong information heuristic provided they come from a source that the recipient finds credible, or with which he or she has shared interests (McDermott 2006). The literature on social networks informs us that guidance from close social contacts, such as close family relations, can have an impact on vote choices across electoral contexts (Santoro and Beck 2017). In fact, face-to-face interaction has, since the pioneer studies on voting behaviour, been considered as the most important stimulation of opinion change (Eulau 1980). This line of literature has also found that input from other, broader social networks can influence vote choices; networks that in today's digitalized world to a large extent are played out at various social media platforms (Sinclair 2012).

In modern election campaigns, voting advice in the shape of an endorsement, do however not only come from social contacts and networks. Increasingly popular tools in many countries, designed to assist citizens with their vote choices, are Voting Advice Applications (VAAs). VAAs are online tools that match political preferences of the individual voter on a large amount of policy issues, with that of parties or individual candidates running for office (Garzia and Marschall 2019). As such, they are fundamentally heuristic-generating instruments, creating an output for the users that can be considered as equivalent to that of an endorsement (Wall, Krouwel, and Vitiello 2014). A potentially very persuasive element of VAAs, and one that makes it stand out compared to other types of endorsements, is that the output these applications produce is a tailor-made recommendation for vote choice, directly reflecting the user's own opinions. The growing research on VAAs has demonstrated that these tools are particularly popular in multiparty systems, and that they can influence voters' behaviours in multiple ways (for a review see Trechsel and Garzia 2019).

In this study we are interested in studying the effect of different types of endorsements on candidate choice, departing from the assumption that not all endorsements carry the same weight in voters' decision-making process. We also consider previous research showing that political sophistication and motivation affect the use of information shortcuts (Bernhard and Freeder 2020; Milic 2020). Sophisticated voters, who are more interested in politics, are likely to engage in a broader and more detailed decision-making process than less sophisticated, which means that sophisticated voters are less likely to rely only on simple information heuristics (Singh and Roy 2014). Hence, we assume that less sophisticated voters are particularly responsive to endorsements since they are more likely to be low on information and therefore in greater need of guidance or effective shortcuts.

Our study focuses on the effect of different types of endorsements on candidate choice and makes four main contributions to existing research. First, previous studies have investigated the impact of endorsements on electoral choices (Kleinnijenhuis et al. 2019; Santoro and Beck 2017) but since they focused on different types of endorsements in isolation, it remains unclear what kind of endorsements are more important for influencing perceptions of candidates. Second, our analyses examine the importance of endorsements for candidate favorability compared to other types of information, such as candidates' ideological positions, social characteristics, and their previous political experience.

Third, we examine how the effects of endorsements vary across levels of political sophistication, which is important as previous research show that less sophisticated voters are more prone to apply easily available information that demands less effort in terms of information processing (Popkin and Dimock 1999).

Our fourth contribution is related to the methodology we use. We examine the impact of endorsements on candidate favorability with a choice-based conjoint experiment. This method has important advantages compared to the alternatives, since it allows us to examine the causal effects of multiple traits on candidate favorability (Franchino and Zucchini 2015), reduce problems with social desirability bias, and approximate real-life effects (Hainmueller, Hangartner, and Yamamoto 2015). This conjoint analysis is embedded in a representative Finnish survey ($n = 1021$) carried out in spring 2020. Finland constitutes an interesting case for our study since it provides an electoral context with a high level of intraparty competition where voters are familiar with voting for a single candidate from a large pool of aspirants (von Schoultz 2018). This means that the conjoint framework involving a choice between candidates is familiar to respondents, and we can therefore expect voters to rely on similar strategies as in real elections.

We find that endorsements from family and close friends and VAAs affect candidate favorability, whereas endorsements from networks on social media do not seem to change candidate favorability. The effect sizes are in line with effects from candidate's socio-demographic background and political experience. Contrary to our expectations, the effects of endorsements do not systematically differ across respondents' level of political sophistication. This leads us to believe that endorsements in any form are unlikely to help to even out the differences between voters with different levels of political sophistication.

Endorsements and candidate choice

How do voters decide which candidate to cast their vote for? During modern election campaigns, voters are confronted with a myriad of information, and to keep track of all relevant campaign messages and to process all available facts on candidates and their policies takes a great deal of effort and time. While some of the early literature on vote choice (Downs 1957) maintained that voters should have complete information to cast a correct or rational vote, abundant research has since concluded that a fully informed vote is rarely, if ever, reality. While studies show that voters are generally fairly ignorant of political processes (Dahl 1989; Carpinì and Keeter 1996), and that they hold unstable (Converse 1964) or ambivalent political opinions (Zaller 1992; see however Nordø 2019), this does not necessarily lead to uninformed vote choices (although see Bartels 1996). A great deal of literature maintains that voters use various cues or heuristics that allow uninformed voters to make choices as if they were informed (Berelson et al. 1954; Neuman 1986; Page and Shapiro 2010).

To minimize the cognitive effort of information retrieval, voters often resort to information shortcuts (Downs 1957; Feld and Grofman 1991; Cox and Katz 1996). Such strategies increase voters' cognitive efficiency and help them to overcome limitations in information processing and lack of political knowledge (Lau and Redlawsk 2006), and reduce the time and effort devoted to deciding how to vote. They are therefore considered particularly useful in low-information elections (McDermott 1998; 2006). Information shortcuts come in different forms and can be, for example, related to the ideological schemata of politics,

perhaps in the form of party identification (Conover and Feldman 1986), or to specific policy issues (Arnesen, Duell, and Johannesson 2019). They can, however, also be less related to the substantive side of politics, and instead connect to various characteristics of candidates such as their age, gender or looks (Berggren, Jordahl, and Poutvaara 2010; Campbell and Cowley 2014; Pedersen, Dahlgaard, and Citi 2019).

In this study, we are particularly interested in the role of direct guidance or advice in relation to vote choices, i.e. we study *endorsement heuristics* (Lau and Redlawsk 2006; McDermott 2006), and the relative impact of different types of endorsements on the choices voters make.

Some of the most easily accessible pieces of political information come from social networks like friends and family. Accordingly, research has demonstrated that voters are influenced by the messages they receive from their social contexts (Beck et al. 2002). While effects of the close social context on voting behaviour generally works through slow socialization processes, where voters absorb cues over time (McPhee 1963), endorsements from family or close friends can also provide direct guidance on which candidate to vote for in specific elections.

The role of social networks has changed substantially with the rise of the internet and social media. While most social interactions and peer discussions of political issues before social media involved face to face-interactions, today interactions largely take place on online media platforms like Facebook or Twitter (Beck et al. 2002; Aldrich, Gibson, and Cantij 2016). Research on the impact of social media networks often presume that social endorsements on these platforms are perceived as useful since people 'assume that the support of others is likely to predict personal relevance and utility' (Sundar and Nass 2001; Messing and Westwood 2014, 1047). Research has shown that social media endorsements impact various types of behaviours such as news consumption (Knobloch-Westerwick et al. 2005; Lerman 2007; Messing and Westwood 2014), music consumption (Salganik, Dodds, and Watts 2006), and course preferences among college students (Steffes and Burgee 2009). While research on the role of social media networks on political behaviour has grown in popularity, it appears to a large extent to focus on mobilizing effects and turnout (Bond et al. 2012, 2017), leaving the impact of social media on vote choices relatively unexplored (Santoro and Beck 2017; see however Ohme, de Vreese, and Albaek 2018).

Another increasingly popular source for guidance in vote choices is Voting Advice Applications (VAAs). VAAs are online tools designed to match voters with specific parties or candidates based on answers to a set of questions on specific policy issues (Garzia and Marschall 2019). After having compared the answers of the individual user with the those provided by individual candidates or by parties, the VAA generally produces a rank-ordered list indicating which candidates (or parties) are the most proximate to the voter. VAAs hence function as heuristic-generating instruments, and the created output is equivalent to that of an endorsement (Wall, Krouwel, and Vitiello 2014). Compared to other types of endorsements based on personalized contacts or spread via social media networks, the output derived from VAAs is unique in the sense that it provides a personalized and tailor-made advice, based on the comparison of the issue stands of the individual voter and nominated candidates (Trechsel and Garzia 2019). VAAs may therefore be seen as a form of self-persuasion where users make up their minds based on the VAA-generated output (Trechsel and Garzia 2019).

In information-rich electoral contexts with many parties or candidates at display, VAAs offers a valuable low-cost option for gaining insight into candidates' ideological positions and they have become widely used in many countries (Garzia and Marschall 2019). Research on VAAs has expanded substantially over the last decade. While many studies in the field rely on less ideal cross-sectional and opt-in data, findings indicate that VAAs can influence political behaviour in a variety of ways (Munzert and Ramirez Ruiz 2021). VAA usage has for example been shown to mobilize voters (Gemenis and Rosema 2014; Garzia, Trechsel, and De Angelis 2017), to have positive cognitive effects (Schultze 2014; Kamoen et al. 2015), and to influence vote choices (Kleinnijenhuis et al. 2019). Considering the growing importance of VAAs, we include this in our study even if they strictly speaking are not social influences since their output reflects *user's own opinions*, rather than the opinions of a particular group or party. However, VAAs may rival the importance of social cues since they provide a persuasive tool that reduces the costs for a voter to engage in informed issue voting (Walgrave, Van Aelst, and Nuytemans 2008).

One of the main conclusions from research on social networks and how they influence vote choices is that close and strong social ties are more important than weak ones (Nowak, Szamrej, and Latané 1990; Sinclair 2012). This is also in line with Latané's (1981) social impact theory which posits that the stronger the ties of the advice giver, and the more credibility (Nowak, Szamrej, and Latané 1990) that person holds, the more important the heuristic becomes. Generally, if the information giver is perceived to be knowledgeable and honest, the endorsement is seen as valuable, especially by less-informed voters (Lupia 1994). Hence, voters often resort to the opinion of close relations, whose opinions they value and find credible (e.g. Sinclair 2012). In other words, the closer the ties, the more credible the information received. In a similar manner, the immediate social context – the persons of confidence (like family and spouses) – have a noted impact on the vote choices (Beck et al. 2002). Therefore, it is important not only to follow whether endorsements serve as heuristics, but also which types of endorsements are held as most credible.

Based on these considerations, we propose the following hypotheses for the effects of endorsements on candidate favorability:

H1a: Endorsements have a positive effect on candidate favorability

H1b: The effect of endorsements on candidate favorability vary according to the strength of the social ties between the respondent and the source of the endorsement

Voters are hence assumed to rely on endorsements heuristic, but the extent to which all voters are as susceptible to endorsements is less clear. To elaborate further the relationship between endorsements and different types of voters, we turn to the concept of political sophistication (see Rapeli 2013, 12–16, for various definitions of the term). In general terms, this concept refers to levels of cognitive complexity of individuals' political thinking, i.e. their levels of political expertise (Luskin 1990). On a more concrete level, sophistication is often considered to include such dimensions as interest in and attention to politics, party identification and political knowledge.

Previous studies show that individuals differ substantially in their attention to politics and exposure to sources of political information, and that their reactions to new political

information are at least partly affected by their levels of political awareness or sophistication (Zaller 1992). Due to more extensive knowledge of politics, politically sophisticated voters are considered better able to absorb the complexities of politics (Funk 1997). Hence, there are reasons also to believe that voters' levels of political sophistication affect the way they use heuristics and cues to aid their candidate selection. For example, Sniderman, Glaser, and Griffin (1991, 119) noted in their study that: 'It is [...] not plausible to suppose that the well-informed voter and the poorly informed one go about the business of making up their minds in the same way'.

In line with this, previous research shows that politically sophisticated voters evaluate candidates and reach their candidate choice in different ways than voters with lower levels of political sophistication (e.g. Dalton 1984; Zaller 1990; Popkin 1991; Bartels 1996; Goren 1997; Johns and Shephard 2007; Singh and Roy 2014). Popkin and Dimock (1999), for example found that people with less knowledge about the political institutions rely on different types of information when evaluating candidates, compared to those with more knowledge about the political system. Less sophisticated voters give higher priority to information related to personal characteristics than to substantive political issues, such as ideological positions or previous performance. Some studies have, in turn, pointed towards an asymmetric effect of political sophistication, with the effect mainly being played out in relation to complex information. Accordingly, voters with high levels of political sophistication are more prone to rely on complex information, while easy heuristics, such as party affiliation and candidates' socio-demographic characteristics, are used to a similar degree across levels of political sophistication (Sniderman, Glaser, and Griffin 1991; Cutler 2002; Kim 2006; Coffé and von Schoultz 2020).

Endorsements can be considered as easy heuristics. In fact, some of the most easily accessible information pieces regarding politics come from social networks like family and close friends that may potentially simplify the voting decision for citizens with less experience. Along these lines, research shows that social media platforms are more influential among young, less experienced voters, who find close friend's recommendations, or posts with high amounts of reads and reactions as credible (Ohme, de Vreese, and Albaek 2018). A similar argument has been put forward for VAAs, considered particularly important for first-time voters who do not have so much experience with voting (Kristensen and Solhaug 2017). It should however be noted that VAAs tend to attract politically interested and aware voters at high rates (Marschall 2014), which might be explained by the strong focus on political issues on these platforms, and that they are considered as entertaining by political sophisticates.

While research on the effect of political sophistication is not fully univocal, we find it reasonable to argue that individuals with lower levels of political sophistication are affected to a greater extent by endorsements when making their choice.

This leads us to our final hypotheses:

H2: Endorsements have a stronger effect among respondents with less political sophistication

Research design

To test our hypotheses, we rely on a conjoint experiment embedded in a representative sample of the Finnish population when it comes to age, gender, and region of living, as

shown in the supplement file ($n = 1021$).¹ The data was collected between 26 February 2020 and 4 March 2020 via an online panel recruited through Qualtrics.²

Finland constitutes an interesting case for examining candidate endorsement as the Finnish electoral system is a strongly candidate centred open list system (von Schoultz 2018). To cast a vote, voters need to identify a single candidate out of a wide selection of contenders. Despite the strong candidate focus in voters' electoral choices, Finnish politics resembles most other western-European democracies in that it revolves around a fairly stable set of relevant parties, and that parties structure how politics is carried out. The system can hence be described as having two salient levels of competition; that between parties fighting for political power, and that between candidates, fighting to become a representative for a specific party. The latter level of competition often takes place between candidates nominated for the same party. Since voters need to select a candidate rather than vote for a party list, voters are accustomed to choosing between candidates, which serves to enhance the validity of conjoint analysis as a method to examine our hypotheses. Further, both social media platforms³ such as Facebook, Instagram and Twitter, and VAAs⁴ are widely used by Finnish citizens. Contrary to most other European countries, Finnish VAA's are generally candidate-based (Isotalo 2020).⁵ They hence provide users with recommendations about specific candidates rather than parties, and the recommendation is derived from a comparison of the user's and individual candidates' self-reported responses to a set of issue statements. By examining the Finnish context, we can increase the face validity of the conjoint experiment, but the generalizability of the results outside of Finland and more party centred contexts remains uncertain.

While previous studies have examined similar questions, the use of conjoint analysis for studying the impact of endorsements provides advantages compared to research based on traditional survey items (Hainmueller, Hopkins, and Yamamoto 2014). Conjoint analysis makes it possible to examine the effects of multiple traits on candidate choice (Franchino and Zucchini 2015; Kirkland and Coppock 2018; Marx and Schumacher 2018; Breitenstein 2019). Furthermore, since it is not necessary to ask respondents directly for their preferences on the given attributes, this technique minimizes problems with social desirability bias, which can present a challenge when examining attitudes and preferences in surveys (Ono and Yamada 2020; Breitenstein 2019). Conjoint experiments also approximate real-life effects and therefore minimize potential problems with external validity (Hainmueller, Hangartner, and Yamamoto 2015).

We use a choice-based conjoint design, where respondents are asked to pick their favourite candidate from two profiles consisting of different values of seven attributes. The attributes and their possible values are shown in Table 1, while a screenshot of how the conjoint appeared in Qualtrics is included in the supplement file.⁶ Respondents were first presented with a short introduction that explained that the aim of the study was to examine candidate choice. Following this, they were presented with seven comparisons of two hypothetical candidates and asked to pick the one they would vote for in an election for the Finnish Parliament.⁷

For endorsements, we include four different alternatives in line with the theoretical discussion above. The first specifies that no one has endorsed the candidate. While this may resemble the no information category, the effect of knowing that no one explicitly endorsed the candidate may have an entirely different effect on vote choice. Other

Table 1. Conjoint attributes and levels.

Attribute	Description in conjoint	Levels (R = Reference category)
1. Endorsement	The candidate has been endorsed by	NO INFORMATION (R) No endorsement Voting Advice Applications Network on social media Family member or close friend
2. Gender	Gender of candidate	NO INFORMATION (R) Male Female
3. Age	Age of candidate	NO INFORMATION (R) 27 44 61
4. Education	The candidate's educational background	NO INFORMATION (R) Basic education Intermediate education University degree
5. Ideological proximity	The candidate's political position	NO INFORMATION (R) Close to own political views Far from own political views
6. Political experience	The candidate's political experience	NO INFORMATION (R) No current office holding Holds office in local council Holds office in Eduskunta
7. Chance of winning seat	The chance that the candidate will win a seat is	NO INFORMATION (R) Very likely Intermediate Very unlikely

than this, we include three types of endorsements: From Voting Advice Applications (VAAs), from social media networks, and from family or close friend. While we, in accordance with H1a, expect all types of endorsements to have positive effects, the effects, in accordance with H1b, are expected to vary according to the strength of the social ties between the respondent and the source of the endorsement. We expect endorsements from networks on social media to have the weakest effect and endorsements from close friends and family to have the strongest effect. As already mentioned, the effect of VAAs is unclear in this connection, since it on one hand does not derive from specific social ties, but on the other hand match the voter's own issue positions with those of candidates, which could provide a strong effect on candidate choice.

As concerns the other attributes, gender entails a distinction between male and female candidates. For age, we offer three alternative ages in years separated by 17 years: 27, describing a young candidate; 44, describing a middle-aged candidate,⁸ and 61, describing an older candidate. For education, we also include three possibilities: one describing a candidate with basic education, one with intermediate, and finally one with university level degree. For ideology, we are more interested in the effect of ideological proximity rather than positions on a specific dimension such as left-right or GAL-TAN. We therefore offer two alternatives: either that the candidate is close to own political views or that the candidate is far from ones' own political views. For political experience, we include three alternatives: no current office holding, experience as local councillor or experience as MP. Finally, for the chance of winning seat, we offer three possibilities: unlikely to win seat, intermediate, and likely to win seat.

In conjoint experiments, attribute levels included in each comparison of profiles are randomly selected, and the respondent is asked to select the candidate profile that they prefer. Since each respondent was asked to evaluate seven sets of profiles, all respondents evaluated 14 profiles each. The number of comparisons included in conjoint analyses vary but although the number of comparisons, levels and attributes affect the difficulty of the task, Bansak et al. (2018) show that treatment effects remain stable even with many comparisons and attributes. Hence, there is in practice rarely a specific upper limit to the number of comparisons, but we here limited the number of comparisons to seven for each respondent to avoid satiating.⁹

For each attribute we include a 'NO INFORMATION'¹⁰ category and respondents were instructed to interpret this as no information being available, i.e. it was for example unclear whether the candidate was a man or a woman. We use this as the reference category in all analyses, meaning the results reflect the causal effect of revealing a certain candidate characteristic (e.g. being either male or female) compared to this characteristic being unknown (Christensen, La Rosa, and Grönlund 2020). This approach has the advantage of avoiding the problem of selecting a reference category, which in some cases may be quite arbitrary (Leeper, Hobolt, and Tilley 2020), and makes it straightforward to compare the effect sizes across attributes.

Although conjoint experiments have advantages compared to traditional approaches, there are also potential problems. The estimated effects are population averages, which entails that there may be important differences across different subgroups (Abramson, Koçak, and Magazinnik 2019; Leeper, Hobolt, and Tilley 2020). For this reason, it is also important to examine differences in effects between subgroups in the population. This is in line with our H2, where we examine differences across levels of political sophistication, as measured by political interest, discussing politics, internal political efficacy, party identification and voting in previous national election.¹¹ Previous research suggests that effects are likely to differ depending on level of sophistication (Popkin and Dimock 1999). By including different measures of the multifaceted concept of sophistication, we increase the robustness of our results concerning the potential differences between low and high sophisticated voters.

Average marginal component effects (AMCEs) are estimated using OLS linear regression (Hainmueller, Hopkins, and Yamamoto 2014, 7–9) with standard errors clustered at the respondent level since each respondent makes seven comparisons of candidates. The results are reported with coefficient plots, as recommended by Hainmueller, Hopkins, and Yamamoto (2014), but the results of all regression analyses are available in the supplement file. The AMCE indicates the average change in the probability that a candidate profile will win support when it includes the listed attribute value instead of the baseline attribute value (here no information provided).

To examine differences across levels of political sophistication, we include interaction effects between the candidate attributes and the measure of sophistication in the models (Hainmueller, Hopkins, and Yamamoto 2014). The result is the *Average Component Interaction Effect* (ACIE), which makes it possible to examine whether effects differ across groups. When judging the relevance of the interaction effects, we do not only rely on conventional tests of significance, since these are insufficient to certify the importance of the interaction effects (Kam and Franzese 2009, 43–44). We also consider the practical

implications by seeing whether the effects have similar magnitudes and directions for different values of the moderator.

To allow for a complete interpretation of the results, we also calculate *marginal means*, which describe the level of favorability toward profiles that have a particular feature level, ignoring all other features (Leeper, Hobolt, and Tilley 2020). This is particularly valuable when examining differences across sub-groups of respondents since the choice of reference category may lead to misleading conclusions when examining ACIEs, whereas marginal means are unaffected by this choice (Leeper, Hobolt, and Tilley 2020).

As political sophistication is a broad concept and cannot be measured with a single indicator, we use several different indicators to measure comprehensively its effects on candidate choice. We examine differences across five different aspects or indicators: political interest, frequency of political discussions, internal political efficacy, party identification, and voting in the last parliamentary election. While important differences exist between these indicators, they all gauge how involved the respondents are to political matters, which is closely related to the concept of political sophistication (Rapeli 2013, 16).

For political interest, we use a question where we asked respondents about their interest in political matters on a four-fold scale (from 'not at all interested' to 'very interested'). This was subsequently dichotomized to ease interpretation of results (Low: 'Not at all /not very interested' – High: 'Somewhat/Very interested'). We measure the frequency of political discussions on a five-fold scale (Never, rarely, sometimes, often, every day). This was also dichotomized (Low: Never/Rarely/Sometimes; High = Often/Everyday). For internal efficacy, we combine answers to two statements 'Sometimes politics seems so complicated that I cannot quite understand what is going on' and 'I could take an active role in political matters', both scored on a five-point Likert scale (Totally disagree-Totally agree). The two items were combined to an index ranging from 0 to 8 where higher scores indicate higher levels of efficacy. This was then divided into three categories: Low efficacy (0–3), Intermediate efficacy (3) and High efficacy (4–8). For party identification, we use a question asking respondents if they feel close to a particular political party (yes/no). Finally, for voting in the general elections we use a question asking respondents whether they voted in the previous 2019 parliamentary elections, where respondents who were uncertain or did not have voting rights were coded as no-voters. Table 2 presents descriptive statistics on the political sophistication variables.

While we examine what we believe to be important subgroups, it is impossible to examine all potential subgroups and there may be groups of respondents where the reported average effects do not apply. It is therefore also necessary to be careful when interpreting results. It is important to note that a positive AMCE for an attribute level does not imply that the majority of respondents prefer that feature to the baseline (Abramson, Koçak, and Magazinnik 2019). Instead, the AMCE indicates a causal effect of an attribute level, not a description of the level of support for a candidate possessing that attribute level (Leeper, Hobolt, and Tilley 2020). For this reason, our results do not entail majority support for any of the candidates, only that candidates who possess certain characteristics find themselves at an advantage or disadvantage compared to a candidate with a slightly different profile.

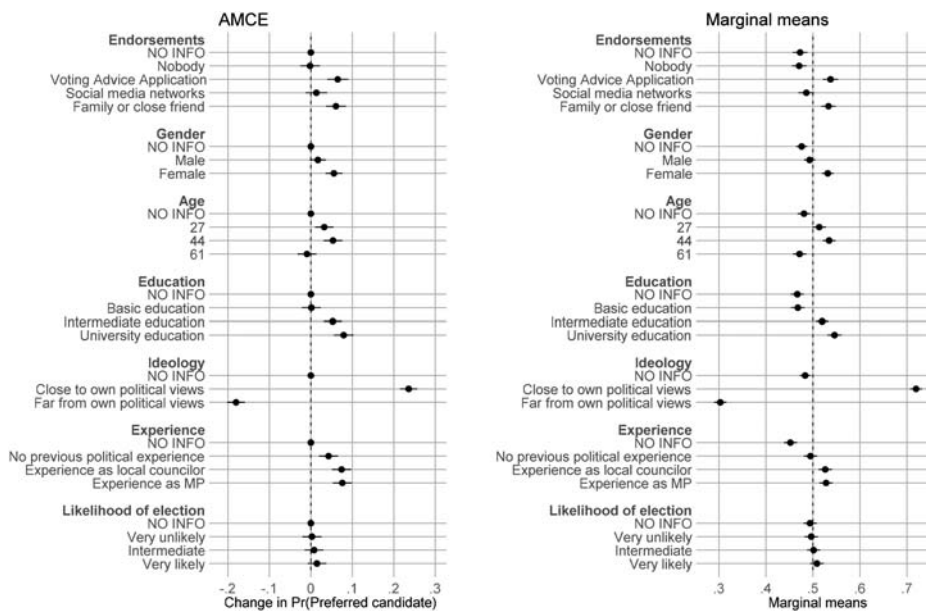
Table 2. Descriptive statistics.

Variable	Observations	Mean	SD/SE
Political interest (0–3)	14,294	1.766	0.911
Political interest: Low (0–1)	5054	0.709	0.006
Political interest: High (2–3)	9240	2.344	0.005
Political discussions (0–4)	14,294	2.312	1.073
Political discussions: Low frequency (0–2)	7966	1.511	0.007
Political discussions: High frequency (3–4)	6328	3.321	0.006
Internal efficacy index (0–8)	14,294	4.066	1.742
Internal efficacy: Low (0–3)	5026	2.214	0.014
Internal efficacy: Intermediate (4)	3836	4.000	0.000
Internal efficacy: High (5–8)	5432	5.825	0.012
Party identification (0/1)	14,294	0.562	0.496
Party identification: None	6258	0.000	N/A
Party identification: Yes	8036	1.000	N/A
Voted 2019 elections (0/1)	14,294	0.722	0.448
Voted 2019 elections: No	3976	0.000	N/A
Voted 2019 elections: Yes	10,318	1.000	N/A

Empirical analysis

We start the empirical analysis by presenting the direct effects of all attributes on candidate favorability in Figure 1, which presents both AMCEs and marginal means of all attribute levels.

When it is revealed that a candidate was endorsed by a Voting Advice Application (VAA), it has a positive effect on candidate favorability ($B = 0.065$, $p < 0.001$). Hence, this effect entails a 6.5 percentage points increase in favorability, which means that candidates endorsed by VAAs on average had a favourable rating (Marginal mean = 0.537, $SE = 0.008$). It also has a positive effect when it is revealed that candidates are endorsed by

**Figure 1.** Direct effects of conjoint attributes (AMCEs and marginal means).

a family member or close friend ($B = 0.060, p < 0.001$), which also entails that such candidates on average have favourable rating ($MM = 0.553, SE = 0.08$).¹² Endorsements via social media networks do not seem to have any effect on favorability, however. While the effects of endorsement are small compared to ideological proximity, they are line with the effects of the other attributes included in the conjoint such as gender, educational background and political experience, meaning they should not be dismissed as irrelevant. The results thus partly support H1a since most endorsements have positive effects on candidate favorability. For H1b, the results are also in line with expectations since the effects from endorsements from social media networks were weak, while endorsements from family and friends had a strong effect. Here it is also worth noting that VAAs had an effect that was at least as strong as the one found for family and friends, which clearly show that these devices provide a new form of endorsements that may rival that of social ties.

While the other attributes are not of central concern for the present purposes, we shortly mention some of the notable results as we can use these results as comparative benchmarks to contextualize the results on endorsement effects. By far the strongest effect comes from ideological proximity, where revealing ideological closeness as expected has a strong positive effect ($B = 0.236, p < 0.001$), while ideological distance has a strong negative effect ($-0.181, p < 0.001$). All other effects are of a smaller magnitude, but the effects are nonetheless substantial. Revealing that a candidate is female increases favorability ($B = 0.056, p < 0.001$), while the effect for males is also positive, but non-significant ($B = 0.017, p = 0.089$).¹³ Candidates who are 27 ($B = 0.032, p = 0.004$) or 44 ($B = 0.053, p < 0.001$) are at an advantage, while it also has positive effects to have an intermediate ($B = 0.053, p < 0.001$) and especially university level education ($B = 0.079, p < 0.001$). For previous experience, all three levels have positive effects significant at $p < 0.001$ (No experience $B = 0.043$, Local council $B = 0.074$, MP $B = 0.076$), but the marginal means reveal that this is because the no information category is given a negative rating, while it is only those who have experience either from local council or as MP who are given a favourable rating on average by respondents. The likelihood of being elected appears to make very little difference to the respondents when choosing a candidate.

In order to further explore the effects of endorsements, we also investigate potential indirect effects they might have by moderating the effects of other attributes (Hainmueller, Hopkins, and Yamamoto 2014).¹⁴ Figure 2 shows differences in effects depending on what type of endorsement was offered in the conjoint.

This shows that endorsements can also affect evaluations in an indirect manner, by alleviating potentially damaging effects from other attributes. Since this indirect effect also includes the potentially negative effects of no information, it is necessary to examine the marginal means to realize the implications since relying only on the ACIEs can be misleading (Leeper, Hobolt, and Tilley 2020).

For most attributes, ratings are the lowest for the 'No information' attribute level, especially when the endorsement attribute level is also 'no information' or 'no recommendation' (marked with black circle and black triangle). This is expected since people are likely to be weary of selecting a candidate when they are missing key pieces of information. However, when there are endorsements, especially from either VAAs or family and friends (dark rhombus and light circle), the ratings of the 'no information' attribute

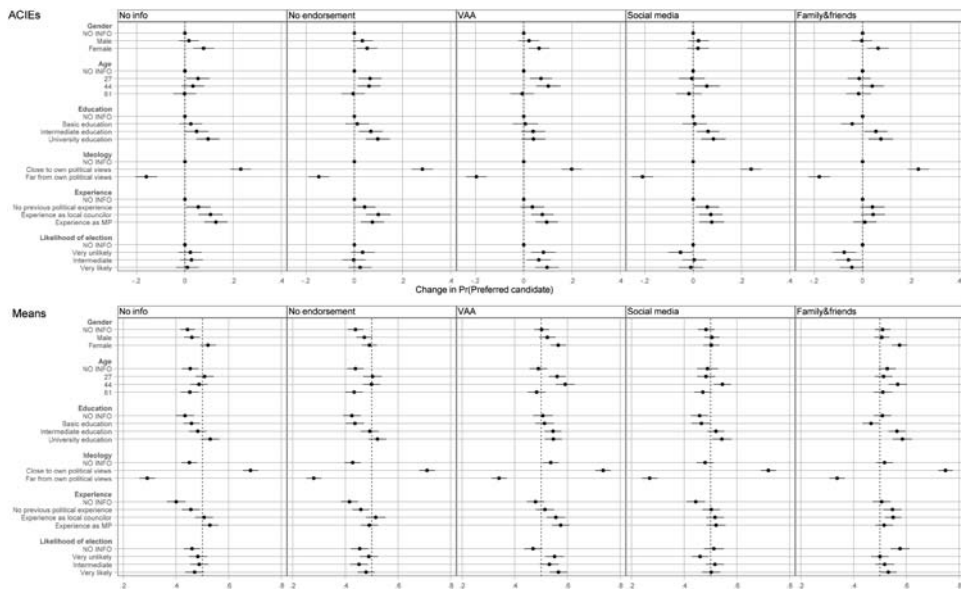


Figure 2. Differences in effects of attributes across type of endorsement (ACIEs and marginal means).

levels increase. This shows that endorsements not only have direct positive effects, they also serve as an information proxy when there is no substantial information available.

Next we explore the extent to which the effects of endorsements vary depending on the political sophistication of the respondents, as suggested by our hypothesis H2. We here examine differences across political interest, discussing politics, internal efficacy, party identification and voting in previous parliamentary elections. Since the results were similar across all indicators, [Figure 3](#) report differences across political interest and discussing politics here, while the rest are in the supplement file.

Our hypothesis H2 suggests that the effects of endorsements should be stronger for those with low political interest. None of the interaction effects are significant at a conventional $p < 0.05$ cut off value, but two of them come rather close: the interaction term for the effect of nobody endorses ($B = 0.048$, $p = 0.065$) and for endorsements from VAAs ($B = 0.051$, $p = 0.064$). When scrutinizing the implications in [Figure 2](#), we see that revealing that nobody is endorsing has a small negative effect for those with low political interest ($B = -0.033$, $p = 0.116$) while it is positive for those with high political interest ($B = 0.014$, $p = 0.333$). Nevertheless, since the effects are in both cases statistically insignificant and rather small, the implications of this are negligible. This conclusion is also supported by the marginal means that show that for both groups, the average mean ratings are below 0.5 when nobody endorses (Low interest = 0.45, high interest = 0.48). For VAA endorsements, the implications are greater, since the results suggest revealing this type of endorsement has a positive significant effect among those with high political interest ($B = 0.083$, $p < 0.001$), leading to an increase in favorability of 8.3 percentage points, while it is weaker and insignificant for those with low political interest ($B = 0.032$, $p = 0.160$). For endorsements from social media or family and close friends, the results appear to be identical regardless of the level of political interest, as judged by both significance and

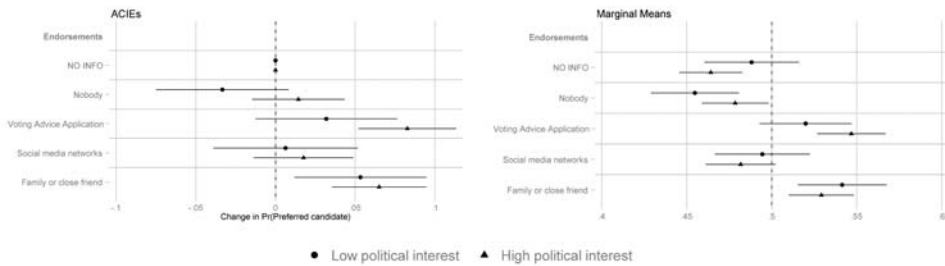
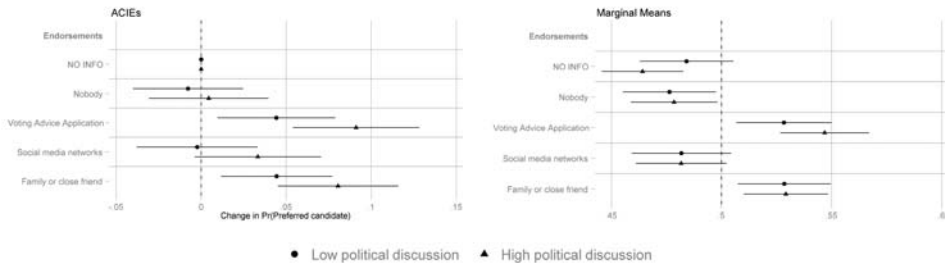
Political interest**Discuss politics**

Figure 3. Differences in effects across level of political interest and frequency of political discussions (ACIEs and marginal means).

implications. All these results then contradict H2 since it does not appear that endorsements have stronger effects for those with low political interest.

For frequency of political discussion, the expectation based on H2 is that the effects of endorsements are stronger for those who do discuss politics less often. The pattern resembles the one for political interest. There are no significant interaction effects between endorsements and the frequency of discussing politics as an indicator of political sophistication at a conventional $p < 0.05$ level, but the one between VAAs and discussing politics again come fairly close ($B = 0.047$, $p = 0.069$). This would mean that VAAs have a stronger effect for people who discuss politics more often ($B = 0.091$ compared to $B = 0.044$), which again contradicts H2. As can be seen in the supplement file, the results for internal political efficacy, party identification and voting are even more consistently indicating no differences across levels of political sophistication. All of this leads us to reject H2 since there is little to suggest that the effects of endorsements differ depending on the respondents' level of political sophistication.

Concluding discussion

Voters use heuristics when evaluating candidates in elections to simplify their vote choice, but the relative importance and how the process varies across the population remains still unclear. In this study, we have made several contributions to this research agenda by studying how different types of endorsements help voters to select a suitable candidate.

First, we examine how endorsements from three sources affect candidate favorability: Voting Advice Applications (VAAs), social media networks, or family member or close friend. Our results show that endorsements from VAAs and from family and close

friends have the expected positive effects on favorability. Furthermore, the effect sizes are in line with known predictors of favorability such as candidate gender, educational attainment, and political experience (Franchino and Zucchini 2015; Marx and Schumacher 2018; Ono and Yamada 2020). The only candidate characteristic that is clearly more important than others is the ideological distance between candidate and respondent, as expected considering previous research that shows the strong effects of partisanship (Kirkland and Coppock 2018; Breitenstein 2019). We thereby show that endorsements are important to consider for understanding candidate choices.

There are also important differences depending on the source of the endorsements. We hypothesized that the effect of endorsement is related to the strength of social ties between the voter and the source of the endorsement. According to our results, endorsements from family and close friends had the strongest effect, which is in line with the idea that social ties matter for the effect of endorsements. Furthermore, endorsements from social media networks did not affect the favorability of candidates, which suggests that social media are less important for determining vote choices than what may be previously thought (Santoro and Beck 2017). This observation is based on a conjoint experiment, which makes it less likely that it can be dismissed as merely showing that people are unwilling to admit or unaware that social media affect their choices. Here it should be noted that when family and friends use social media to give endorsements, the situation may be different. While we do not claim that the result proves that social media networks are irrelevant for candidate choices, it clearly shows that people are critical of endorsements coming from this channel.

We also find that VAAs clearly influence vote choices, which is in line with previous studies (Munzert and Ramirez Ruiz 2021). Endorsements of VAAs, based on a matching of issue positions of the voter and the candidates, has an effect on candidate favorability on par with endorsements from family members and close friends. While the connection to social ties is somewhat unclear, VAAs clearly offer a powerful heuristic tool that to some extent can substitute guiding heuristics from social contacts and interactions. It may not be surprising that VAAs are growing in popularity in the highly complex political environment with mandatory preference voting that exist in Finland (Isotalo, Järvi, and von Schoultz 2019). Nevertheless, together with the strong effect of ideological proximity, this may be taken as evidence that voters emphasize the substantive side of politics compared to conventional candidate characteristics such as age or gender.

It is also noteworthy that endorsements from VAAs and from family and close friends alleviate the negative effects that it has when key pieces of information are withheld from the voter, such as the candidates' background or ideological proximity. This suggests that a potential causal mechanism for how endorsements affect favorability is that endorsements serve as an information proxy when other information is missing, although more research is needed to establish this conclusively.

Last, but by no means least, we found nothing to suggest that these effects differed across levels of political sophistication of voters, as suggested by a great deal of research (Zaller 1990; Popkin 1991; Bartels 1996; Popkin and Dimock 1999). In our study, we found no evidence that endorsements mattered more for those with lower sophistication, whether measured by political interest, frequency of political discussions, internal political efficacy, party identification or voting in previous national election. Some tentative results even indicate that endorsements from VAAs matter more for voters with high levels of

political interest and among those that discuss politics frequently. This might be because these groups of voters are more familiar with, and have greater experience of using VAAs in election campaigns (Marshall 2014). Our results suggest that endorsements in any form are unlikely to help even out the differences between voters with different levels of political sophistication. A possible explanation for this is asymmetric differences between people with low and high political sophistication in the information cues they rely on when deciding how to vote (Sniderman, Glaser, and Griffin 1991; Cutler 2002; Kim 2006; Coffé and von Schoultz 2020). When voters irrespective of their level of political sophistication use easy heuristics but those with low political sophistication rely only on these easy heuristics, we would not observe systematic differences in effects across level of sophistication. This interpretation is supported by the finding that candidate ideology has a stronger effect on favorability for voters with high political sophistication. As Sniderman and colleagues put it '[...] the better-informed voter tends to take account of nearly everything including the kitchen sink' (1991, 173). While our results are hardly conclusive, this suggests a promising avenue for understanding how political sophistication matters for voter behaviour.

These results do not come without caveats. The results from conjoint analyses depend on the attributes included (Abramson, Koçak, and Magazinnik 2019). While we incorporated attributes commonly found in similar research, it is necessary to ascertain that the results are similar when incorporating other aspects of candidate profiles. Furthermore, while we are convinced that the effects are similar across levels of political sophistication, there may be important differences across other sub-groups in the population (Abramson, Koçak, and Magazinnik 2019; Leeper, Hobolt, and Tilley 2020). Finally, and perhaps most urgently, it is imperative to examine whether similar effects are found outside of Finland in contexts where voters are used to choosing between candidates when voting. Despite these uncertainties, our results demonstrate that endorsements contribute an important piece of the puzzle when voters decide which candidate to vote for.

Notes

1. Out of a concern for data quality, we excluded respondents who filled in the survey in less than 2 min and those who took more than 12 min to answer all questions. Even if we cannot ascertain that the sample resemble the general population in every regard, we do not employ weighting during the analyses. Since all analyses suggest that the effects are homogenous across the population this is unlikely to affect the external validity of the study.
2. The study was preregistered at <https://osf.io/k5gvn>. When deviations from the plan occur, they are noted in the text.
3. According to statista 67 percent of all individuals used social networks in Finland in 2019 (<https://www.statista.com/statistics/384465/social-network-penetration-in-finland/>).
4. The Finnish Public Broadcasting Company (YLE) introduced the first VAA in 1996, and other media actors were soon to follow. Voters have embraced the development, with close to half (49%) of the electorate using at least one voting advice application during the 2019 parliamentary election campaign (Suomen virallinen tilasto 2019). Finnish VAAs are generally candidate oriented, producing an outcome that match users' responses with those of individual candidates, without taking into consideration which party that has nominated the candidate.
5. Candidate-based VAA's are generally used only in countries with preferential voting, such as Denmark, Finland, Lithuania, Luxembourg and Switzerland (Dumont, Kies, and Fivaz 2014).

6. A rating-based conjoint allows respondents to rate candidates, but the choice-based approach is simpler, resembles the voting situation to a greater extent, and substantial results are in most cases similar (Hainmueller, Hopkins, and Yamamoto 2014).
7. We did not include a possibility to pick neither of the candidate profiles meaning respondents were forced to pick either of the alternatives on offer. It is therefore not possible for the respondent to express a lack of interest in the candidates on offer, which may sacrifice some of the realism of the experiment.
8. This is close to the mean age of the candidates nominated for election over the period 1995–2019, which is 46 years. The average age of nominated and elected candidates in the 2019 election is 47.
9. It can be a problem that some combinations of attribute levels may be unrealistic or even logically impossible. Although it is possible to avoid specific combinations to increase authenticity of the comparison (Hainmueller, Hopkins, and Yamamoto 2014, 20), it is usually preferable to avoid making such restrictions by formulating levels that can be plausibly combined. In this case, even if some combinations are more likely to occur than others, none are logically impossible, and we therefore proceed without making any restrictions on the combinations presented to respondents.
10. This category is presented in capital letters to highlight the special status of it.
11. It is impossible to examine all potential sub-groups in this study. While this did not form part of the pre-registration, we tested whether there were differences in the effects of endorsements across respondents' gender, as suggested by Krupnikov et al. (2020). We did not, however, find any significant differences depending on whether respondents were male or female.
12. While the effects for endorsements from VAAs and family and close friends are significantly stronger than all other categories, the differences between them is not statistically significant (contrast = -0.004 , $p = 0.736$).
13. Using 'Male' as reference category shows that there are also significant differences between male and female candidates ($B = 0.039$, $p = 0.000$).
14. This part on indirect effects did not form part of the preregistered plan and we therefore do not offer a specific hypothesis for how recommendations may moderate the effects of other attributes.

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